



PATENT ABSTRACTS OF JAPAN

(11) Publication number: **08264780 A**(43) Date of publication of application: **11.10.96**

(51) Int. Cl.

H01L 29/78**H01L 21/02**(21) Application number: **07087595**(22) Date of filing: **20.03.95**(71) Applicant: **TOSHIBA CERAMICS CO LTD**(72) Inventor: **TSUON RII
SHIMOI NORIHIRO
KIRINO YOSHIO****(54) SEMICONDUCTOR ELEMENT****(57) Abstract:**

PURPOSE: To provide a semiconductor element wherein a reconstituted surface of a silicon wafer is used, high electron mobility is obtained, and operating speed is correlatively increased.

CONSTITUTION: This element uses a silicon wafer as the substrate which has a step construction wherein the silicon wafer surface is slantly sliced with an inclination angle of 0.01-5° to a specified direction and is cleaned, and then reconstitution is performed by heat treatment in a specified atmosphere. Electron mobility is generated in each of the step planes constituting the step construction. It is desirable that the slant slice is applied to single crystal silicon whose face orientation is (100) in the [110] direction. It is also desirable, as a semiconductor element, that a source, a gate and a drain are arranged in series in each of the step planes of an MOS device.

COPYRIGHT: (C)1996,JPO

